

ABSTRACT OF THE DISCLOSURE

Clock alignment circuits and techniques for reducing power dissipation, increasing power supply noise immunity, decreasing process and temperature variation sensitivity, and providing a wide operating range. A power supply generator generates an isolated supply voltage for a delay line used in a clock alignment circuit. The delay line generates a delayed clock from a reference clock. A comparator detects a correction information (i.e., delay or phase error) between the delayed clock and the reference clock and generates error information representative of the correction information. A charge pump circuit converts the error information into a voltage signal, wherein the voltage signal is a scaled representation of the error information. The power supply generator includes an amplifier having a first input coupled to the voltage signal and an output to provide the supply voltage and a capacitor coupled between the supply voltage and a ground voltage, wherein the amplifier tracks the voltage signal level to regulate the supply voltage.